

REMARKS

Claims 1 and 2 are currently amended. Claims 3-5 and 16-21 were previously cancelled. Claims 6-15 are cancelled without prejudice or disclaimer. Upon entry of the amendment claims 1 and 2 will be active. The amendments to claims 1 and 2 are supported by the claims as previously presented and by the examples in the specification. No new matter has been added.

The office rejected previously presented claims 1-3 and 6-15 under 35 U.S.C. § 103(a) over Hwang ("A Novel Organic Bottom Anti-Reflective Coating Material For 193 nm Excimer Laser Lithography", Polymer 41 (2000) pp. 6691-6694 in view of Pavelcheck(U.S. 6,767,689). Applicants submit that pending method claims 1 and 2 would not have been rendered unpatentable over the cited references because the cited references do not teach or suggest the claimed method and, in addition, applicants submit that the data presented in the specification rebut any *prima facie* case of obviousness.

Pending claims 1 and 2 are directed to a method for improving the adhesion of an organic anti-reflective composition utilizing an adhesivity enhancer represented by chemical formula 1. Applicants submit that the cited references do not teach or suggest the claimed method.

With regard to the showing of unexpected results, applicants again emphasize that the improvement comes from a combination of the crosslinking agent, the light absorbing compound, the acid generated and the adhesivity enhancer. The composition as a whole gives the improved method. Applicants note that the office utilized a combination of references in its rejection. The courts have made it clear that the rejection based on a combination of references is a rejection under 35 U.S.C. § 103(a) and such a rejection may be rebutted with a showing of unexpected results. (KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. and MPEP 2144.09 VII). Specifically, applicants note (as did the office) that Hwang does not teach or suggest the recited light absorbing agent which is a component in the composition of the claimed method. Accordingly, Hwang would not necessarily give the claimed method because Hwang is missing a required component in the claimed method. The office uses Pavelcheck in an obviousness rejection to make-up for the deficiencies of Hwang (i.e. a second light absorber)

Finally, the office states there is a "huge discrepancy in the amounts of crosslinking agent between examples and comparative examples". The office did not specifically address applicants comments in the response filed December 17, 2008.

In the response filed December 17, 2008, applicants noted that

“.....the office evaluate the composition of the examples and comparative examples in light of the goal of the invention which was to improve the pattern shape. The data in table 1 and the figures demonstrate this goal was achieved (i.e. no pattern collapse versus pattern collapse, see p. 17 of the specification for further discussion). In the example experiments, applicants replaced some of the crosslinking agent in comparative examples 1-3 with the claimed adhesivity enhancer. For example, in example 2 the total amount of crosslinking agent and adhesivity enhancer was 0.36 g which is the same amount of the crosslinking agent (0.36 g) used in comparative example 1. The replacement of some of the crosslinking agent with the adhesivity enhancer resulted in an unexpectedly improved pattern due to the adhesivity enhancer of formula 1. Applicants submit that these experiments are a fair comparison relative to known compositions and the results demonstrate the unexpected improvement in pattern properties of the claim composition. Again applicants emphasize that the improvement arises from the combination of the crosslinking agent, the light absorbing compound, the acid generator and the adhesivity enhancer. (Emphasis Added) Applicants further submit that this improvement in pattern properties would not have been predictable based on the cited references.”

Applicants respectfully disagree with the office's conclusion that there is a “huge discrepancy” between the examples and comparative examples. The comparative example 1 had more (0.36g) actual crosslinker than example 2 (0.18g) potentially putting this comparative example at an advantage. Example 2 contained 0.18 g of the adhesivity enhancer so the total amount of crosslinker and adhesivity enhancer was 0.36 g in example 2 (the same weight of crosslinker in comparative example 1). Both comparative example 1 and example 2 have about the same amount of all the other ingredients with the final composition being commensurate in scope with the cited references (i.e. the same amount of UV absorber and thermal acid generator). The data show that the amount of crosslinker can be reduced by one-half when replaced with an equal amount of adhesivity enhancer. The unexpected results are that in using the adhesivity enhancer in place of some of the crosslinker the pattern shape is good in example 2 versus pattern collapse with comparative example 1. Applicants submit that this comparison is more than fair because applicants are comparing the prior art containing a UV-absorber, thermal acid generator and a crossing agent to the claimed method which utilizes these three ingredients with the addition of the adhesivity enhancer with some of the crosslinking agent being replaced with the adhesivity enhancer. Applicants fail to understand way this is not a more than fair

comparison. If applicants had simply added adhesivity enhancer to the comparative example, would the office have found this "fair"? To keep the total amount of ingredients by weight the same in the comparative and inventive samples, applicants replaced some of the crosslinker with adhesivity enhancer in example 2. With less crosslinker example 2 is at a disadvantage, the surprising result is that this replacement improves product performance. This is exactly the type of improvements that led the courts to adopt the unexpected results policy in rebutting obviousness rejections.

Applicants respectfully request that the office further consider these results. Applicant's representative encourages the office to contact the undersigned if the office has any questions regarding the above remarks.

In light of the remarks above, applicants submit the application is in condition for allowance. Favorable reconsideration is respectfully requested.

Respectfully submitted,

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